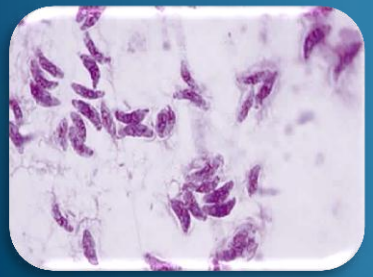
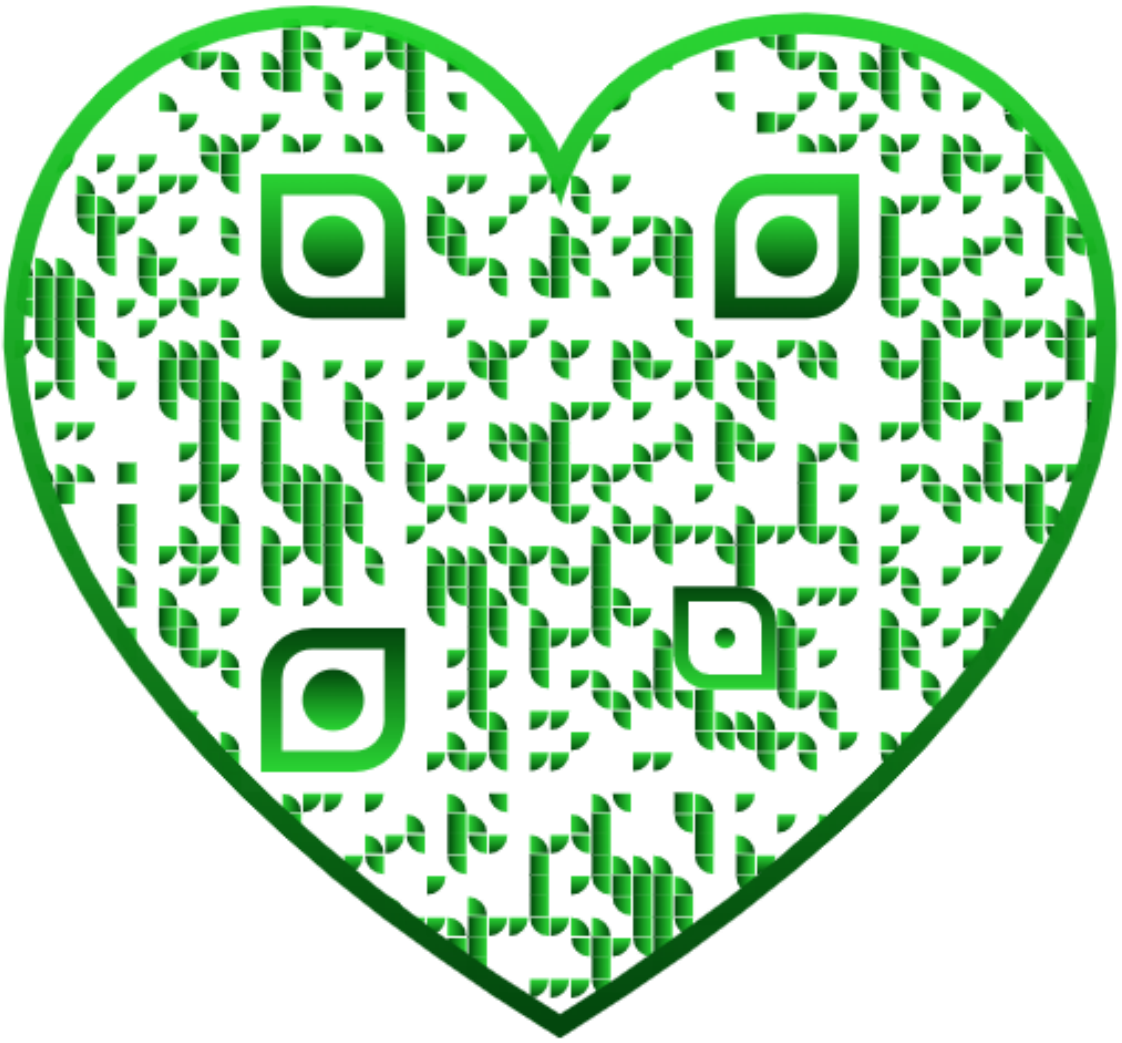
Toxoplasma gondii

(Tissue protozoa)



BY. Sumaia Al-Gumaei



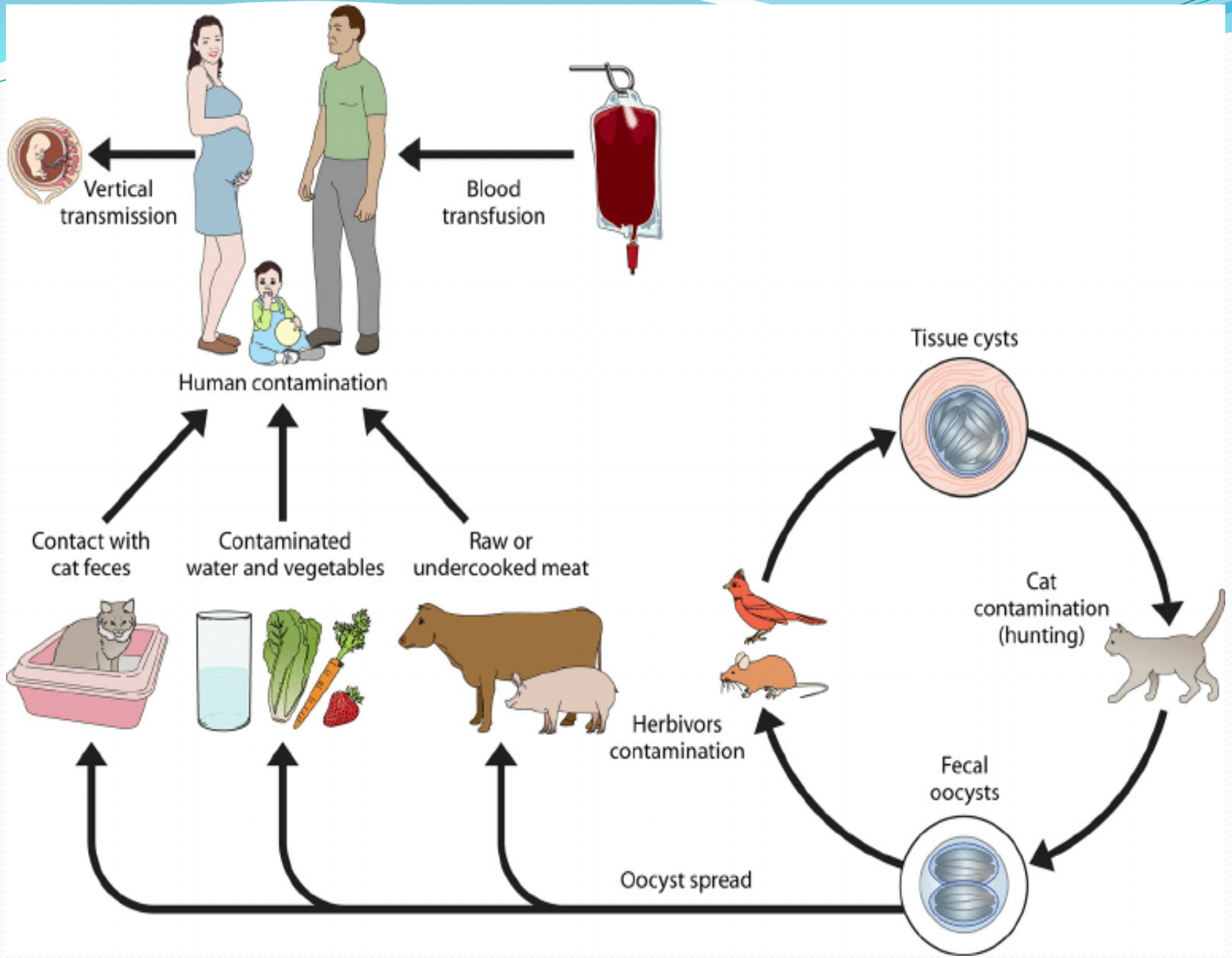
Toxoplasma gondii

- **Phylum :** Apicomplexa
- **Class:** Sporozoa
- **Disease :** Congenital Toxoplasmosis, Toxoplasmosis (in immunocompromized patient).
- **D.H:** Cats.
  - **Habitat:** epithelium of small intestine .
- **I.H:** Man & other animals as sheep and cattle.
  - **Habitat:** intracellular inside RECs.
- **Infective stages:**
  - Sporoulated oocyst
  - True cyst or pseudocyst
  - Tachyzoites

Toxoplasma gondii

❖Mode of infection:

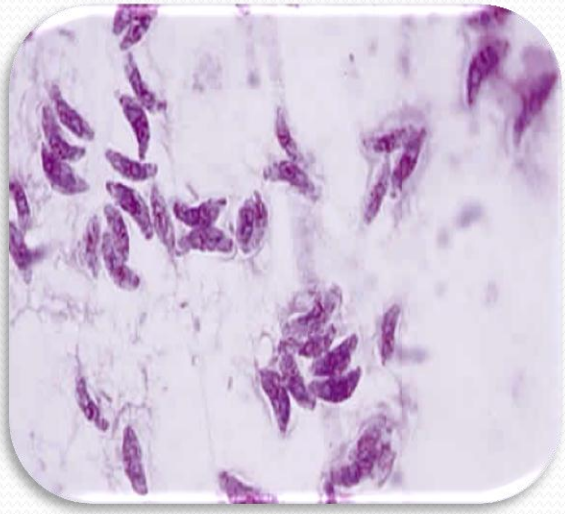
- Congenital infection from infected mother to its fetus (acute stage).
- Ingestion of oocyst (sporulated) in contaminated food or water with infected cat faeces.
- Ingestion undercooked meat containing pseudocyst or true cyst.
- Drinking m unpasteurized milk containing tachyzoites.
- Blood transfusion (containing tachyzoites).

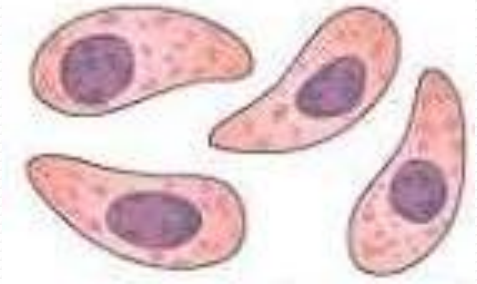

Vertical transmission
Blood transfusion
Human contamination
Tissue cysts
Contact with cat feces
Contaminated water and vegetables
Raw or undercooked meat
Cat contamination (hunting)
Herbivors contamination
Fecal oocysts
Oocyst spread

Morphology

❖Tachyzoites:

- Crescent-shaped with one end pointed & the other rounded.
- Has central nucleus.
- Rapidly multiplying that can invade all types of cells forming pseudocysts.





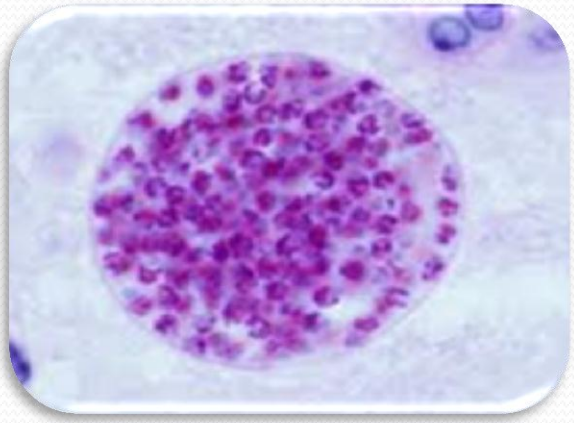
Morphology

❖Pseudocyst : (in acute stage)

- It is the infected cell containing many of tachyzoites.
- Found in brain, liver& lung.

❖ True cyst:(in chronic stage)

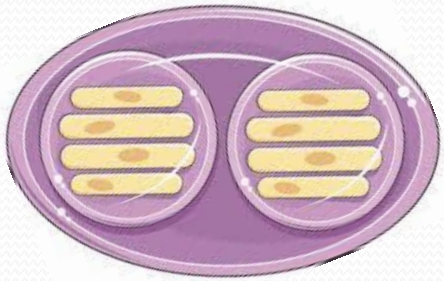
- It is rounded cyst containing mang of bradyzoites.
- Found in brain& muscles.

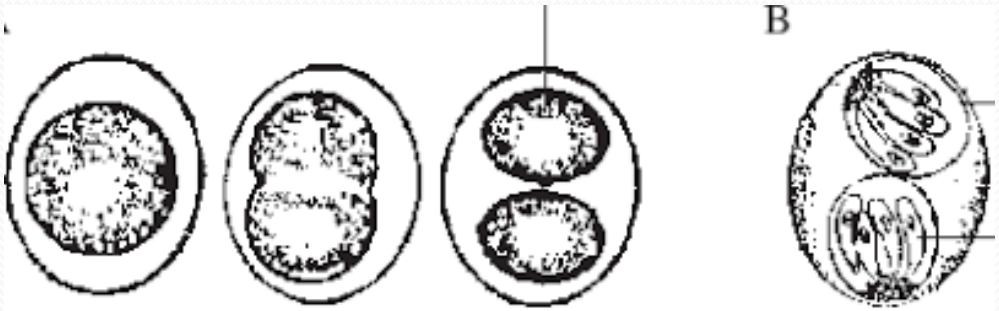


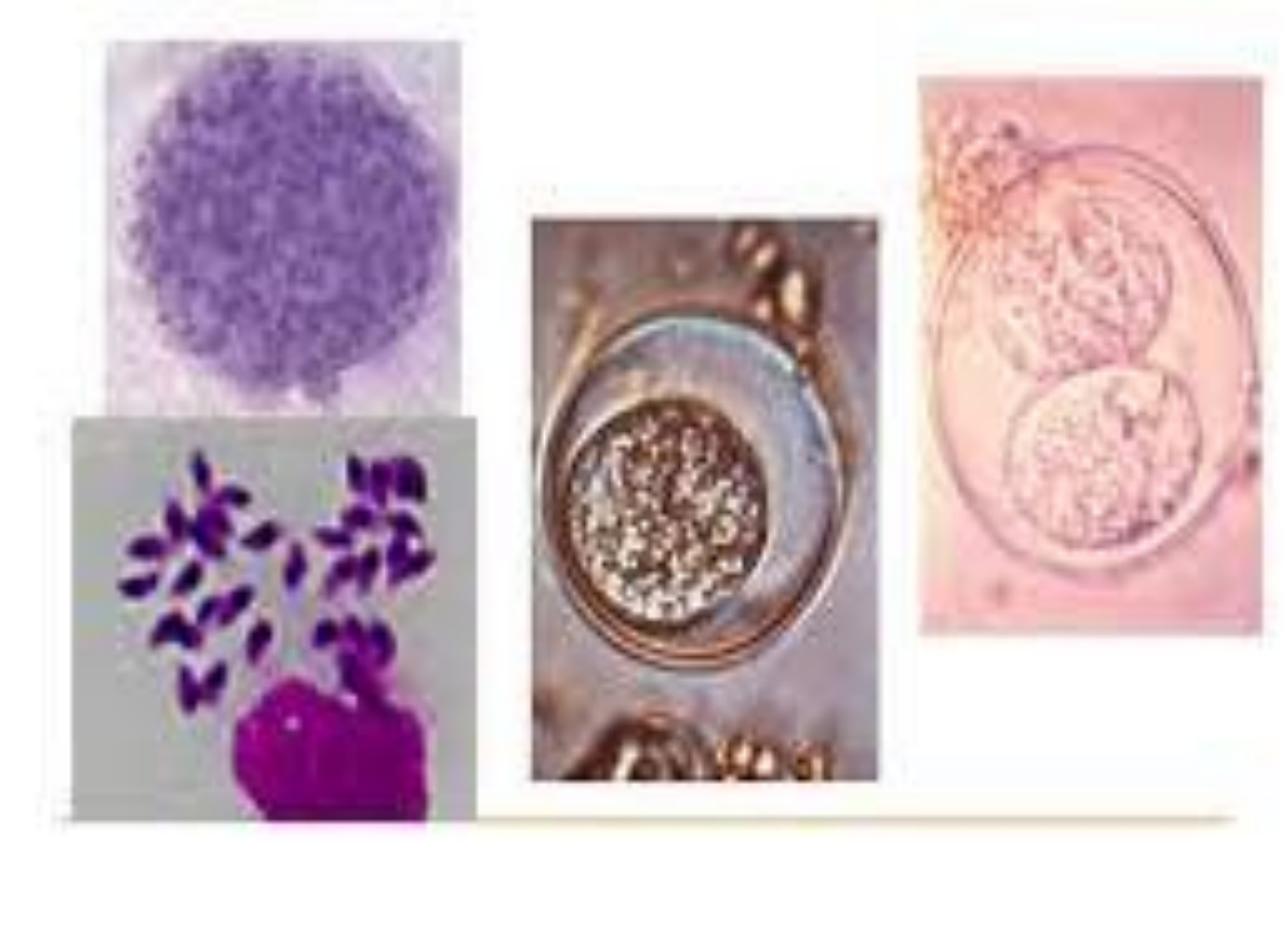
Morphology

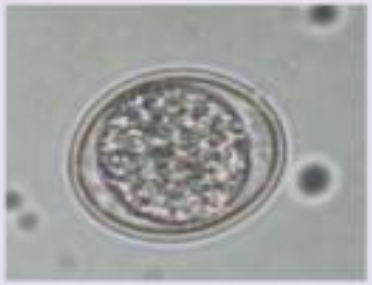
❖Oocyst:

- It is oval in shape.
- Containing 2 spotocyst
- Each sporocyst containing 4 sporozoites.
- Found in faces of cats.



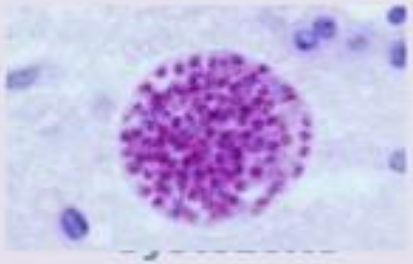




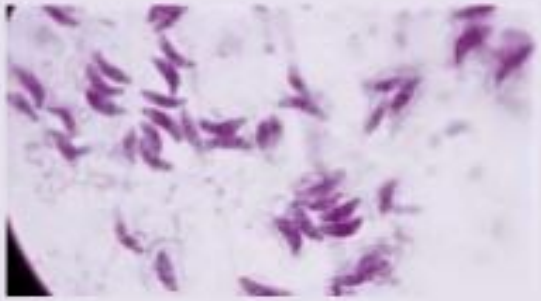


oocyst

Sporulated oocyst



Bradyzoites within tissue cyst

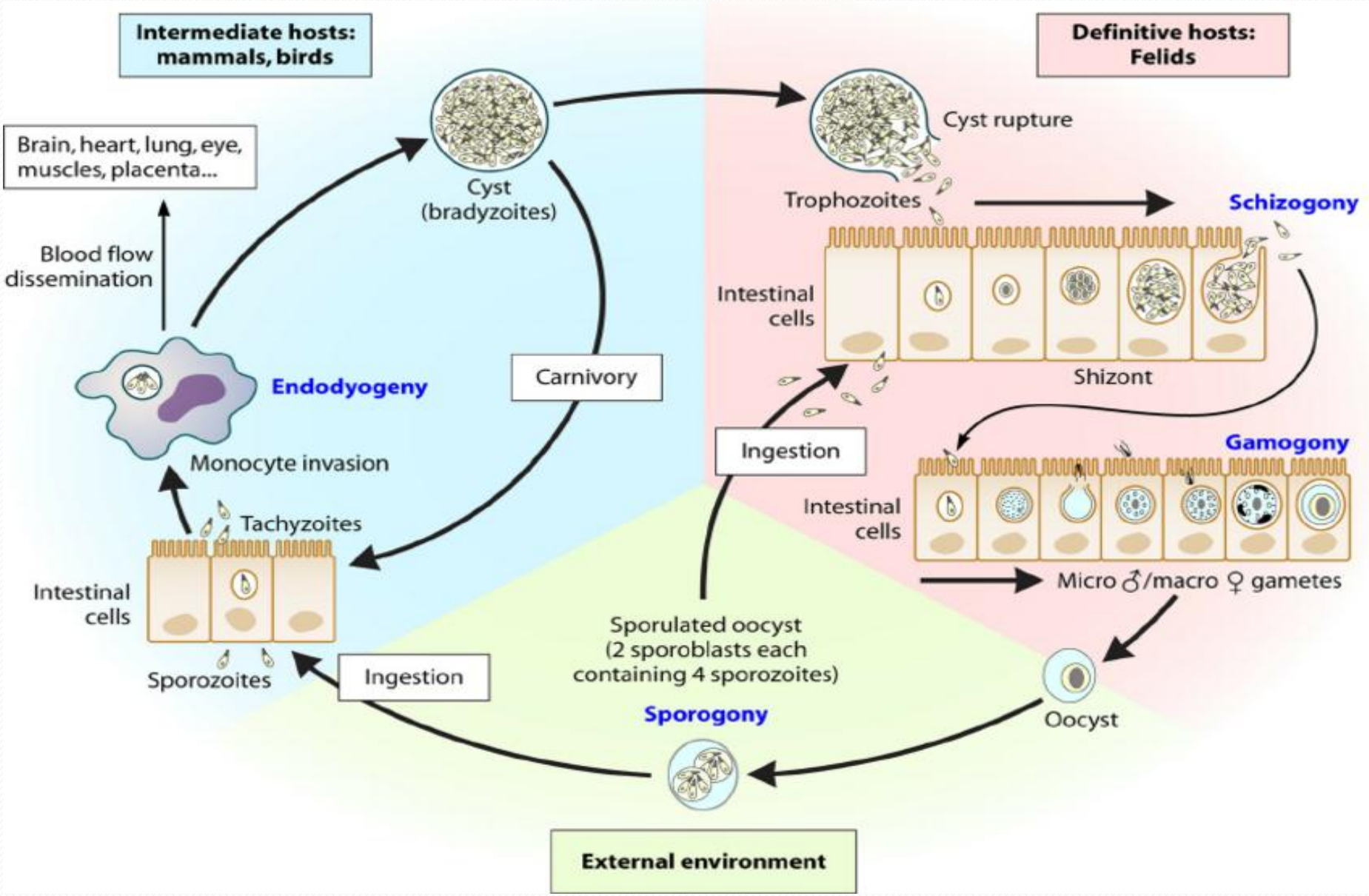


Tachyzoites

Tachyzoites

Morphology

Life cycle


Intermediate hosts: mammals, birds
Definitive hosts: Felids
Brain, heart, lung, eye, muscles, placenta...
Cyst (bradyzoites)
Cyst rupture
Trophozoites
Schizogony
Blood flow dissemination
Intestinal cells
Shizont
Endodyogeny
Carnivory
Ingestion
Gamogony
Monocyte invasion
Tachyzoites
Intestinal cells
Micro ♂/macro ♀ gametes
Sporulated oocyst (2 sporoblasts each containing 4 sporozoites)
Sporozoites
Ingestion
Oocyst
Sporogony
External environment

Thank you